FINAL REPORT NUMBER 401-NVS-05-008

SAFETY COMPLIANCE TESTING FOR FMVSS 401 Interior Trunk Release

2005 Saab 9-3 Sedan NHTSA No. C50517

Prepared by: NHTSA OFFICE OF VEHICLE SAFETY COMPLIANCE

400 7th Street, SW Washington, D.C. 20590



1/13/2005

FINAL REPORT

PREPARED FOR:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
ROOM 6111 (NVS-221)
WASHINGTON, D.C. 20590

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration in the interest of Information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By:	Editario Merino Astron Safety Compliance Engineer
	Eduardo Maximo Aviles , Safety Compliance Enginee
Accepted E	
	Eduardo Maximo Aviles
Report Date:	1/13/2005

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. 401-NVS-05-008	2. Government Accession No.	3. Recipient's Catalog No.	- wa wa a a a
4. Title and Subtitle Final Report of FMVSS 401 C a 2005 Saab 9-3 Sedan , NHT		5. Report Date 1/13/2005	
,		6. Performing Organization Cod OVSC	de
7. Author(s) Eduardo Maximo Aviles, Saf	ety Compliance Engineer	8. Performing Organization Rej 401-NVS-05-008	port No.
Performing Organization Nar U.S. Department of Transpo National Highway Traffic Saf Enforcement	rtation	10. Work Unit No.	
Office of Vehicle Safety Com 400 Seventh Street, SW Room 6111 Washington, DC 20590	pliance (NVS-221)	11. Contract or Grant No.	
12. Sponsoring Agency Name of U.S. Department of Transport National Highway Traffic Safe Enforcement Office of Vehicle Safety Com	tation ety Administration	13. Type of Report and Period Covered Final Test Report	
400 Seventh Street, SW Room 6111 Washington, DC 20590		14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes	· 		· ·
16. Abstract			
A compliance test was conduct with the U.S. Department of Tr. Test Procedure TP-401-01. The engineers on 1/13/200. Test Location:	ansportation, National High	way Traffic Safety Administratio	n's Laboratory
Saab Dealership in Northern Vi Test falkures were as follows: N	•		
17. Key Words Compliance Testing Safety Engineering FMVSS 401 2005 Saab 9-3 Sedan		18. Distribution Statement Copies of this report are avail from: NHTSA Technical Refe Division, Mail Code: NAD-52 400 Seventh Street, SW, Roo Weshington, D.C. 20590 Telephone No. (202) 366-494	erence om 5108
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE NO.	
1.0	PURPOSE OF COMPLIANCE TEST		5
2.0	TEST PROCEDURE AND DISCUSSION OF RESULTS		6
3.0	COMPLIANCE TEST DATA		7
4.0	TEST EQUIPMENT LIST AND CALIBRATION INFORMATION		11
5.0	PHOTOGRAPHS		12

1.0 PURPOSE OF COMPLIANCE TEST

The purpose of this compliance test was to determine whether the subject vehicle, a 2005 Saab 9-3 Sedan, meets the performance requirements of FMVSS 401, Interior Trunk Release.

The test was conducted in accordance with the U. S. Department of Transportation, National Highway Traffic Safety Administration's Laboratory Test Procedure TP-401-01.

The test was conducted by NHTSA Office of Vehicle Safety Compliance test engineers on 1/13/2005

Test Location: Saab Dealership in Northern Virginia

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS

Based on the test performed, the Vehicle: 2005 Saab 9-3 Sedan, NHTSA No. C50517 appeared to meet the requirements of FMVSS 401.

The vehicle was tested by entering the trunk and closing the lid. The release slide lever was easily observed in the darkened, enclosed trunk. A force gauge was attached to the release handle and 3 separate attempts were made to exit the trunk by applying a load to the instrument. For each attempt, the trunk released from the single latching position at a force level of approximately 48 newtons (10.8 lbs.) or less.

3.0 COMPLIANCE TEST DATA

DATA SHEET 1 FMVSS 401 - VEHICLE DESCRIPTION

VEHICLE MY/MAKE/M VEH. NHTSA NO.: <u>C50</u>		YLE: <u>2005 Saab 9-3 Sedan</u> ; VIN: <u>YS3FB49S451018947</u>
DATE OF TEST: 1/13/2	905	TEST LAB: BY OVSC @ DEALER
GVWR: <u>1961</u> KG		MANUFACTURED DATE: 10/04
TRUNK LOCATION: 4 NUMBER OF TRUNK L		If Front, Front Opening?
INTERIOR TRUNK REL	.EASE: C MAN	NUAL & AUTOMATIC C BOTH
POWER OPERATED C OWNER'S MANUAL DE		TRUNK RELEASE: # YES C NO
REMOVABLE EQUIPM SPARE TIRE: TIRE JACK: LUG WRENCH: TOOL BOX: PARTITIONS: OTHER:	▽ (SIZE) <u>T12</u> 〒 ▽	
REMARKS: Toolbox was inside the	e spare tire whe	el well.
RECORDED BY: Eduar	do Maximo Avii	les DATE: 1/13/2005
APPROVED BY: Edua	rdo <u>Maximo Avi</u>	les_

3.0 DATA SHEETS....Continued

DATA SHEET 2 (1 of 2)
FMVSS 401 - All trunks except for front trunk compartments with front opening hoods
MANUAL TRUNK RELEASE OPERATION

VEHICLE MY/MAKE/MODEL/BODY STYLE: 2005 Saab 9-3 Sedan
VEH. NHTSA NO.: C50517 ; VIN: YS3FB498451018947
DATE OF TEST: 1/13/2005
Method used to actuate interior trunk release: <u>Grab Handle</u> Other:
Can test personnel enter trunk and be closed within:
is there access to the trunk compartment by folding down rear seat or partition: . Yes
Does Release Mechanism require electric power: C Yes 6 No
Can release mechanism be easily seen inside the closed trunk: 🧖 Yes 🧠 🦰 No
Describe method used by vehicle manufacturer to ensure that release mechanism is visible in a closed trunk compartment: Phosphorescence , auxiliary lighting, etc)

Describe laboratory test method used to determine visibility of release mechanism:

(Trunk entry, darkened room, etc.) Trunk entry

Vehicle Stationary (0 km/h)	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from <u>All</u> latching positions	Pass/Fail
IO KEY IN IGNITION		i	
	48	@Yes €No	@ Pass
Attempt 1	•		C Fall
	48	© Yes ℂNo	Ø Pass
Attempt 2			⊂ Fall
	48	@ Yes C No	€ Pasa
Attempt 3			C Fall
Average -	48		

DATA SHEETS....Continued

DATA SHEET 2 (2 of 2)
FMVSS 401 - MANUAL TRUNK RELEASE OPERATION (continued) NOTE: Interior Trunk Release is a totally mechanical system with its operation and functioning not dependant upon engine operation or vehicle speed. The release mechanism will function identical to that of the stationary vehicle with the no key in the ignition (as previously tested) and thus the following tests were not required to be conducted.

Vehicle Stationary (0 km/h) ENGINE IDLING F Not Applicable	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from <u>All</u> latching positions	Pass/Fall
Attempt 1		∵CYes ⊂ No	← Pass ← Fall
Attempt 2	·	C Yes C No	C Pass C Fall
Attempt 3	,	C Yes C No .	C Pass C Fall
Average -			
Vehicle Speed (km/h) Force Requir	ed to Release Trunk Lid (New [no requirement]	rtone) Trunk Released from	All Pass/Fail
		6 6	

Vehicle Speed (km/h)	Force Required to Release Trunk Lid (Newtone) [no requirement]	Trunk Released from <u>All</u> latching positions	Pass/Fail
10		C Year C No	C Fall
20		Ċ Yes Ĉ No	C Pasa C Fall
30		C Yes C No	C Pasa C Fall

Pass Fail			٠.		
REMARKS:				•	
· · · · · · · · · · · · · · · · · · ·					

APPROVED BY: Eduardo Maximo Aviles

3.0 DATA SHEETS....Continued

DATA SHEET 3 FMVSS 401 -TEST SUMMARY

	rm v ac	401 - 1 E 4	LOUMMART
	PASS	FAIL	COMMENTS
Automatic or Manual release mechanism inside the trunk compartment. S4.1	æ	۲	Manual release.
If manual release, lighting feature is Included. S4.2(a)	æ	۲	Self lighting (Phosphoreecence).
If automatic release, unlatches trunk lid within 5 minutes. \$4.2(b)	۲	· C	Not applicable.
Except as provided by S4.3(b), actuation of release mechanism required by S4.1 completely releases trunk lid from all latching positions of the trunk lid latch. S 4.3(a)	æ	۲	
For front trunk compartments, front opening hoods, when vehicle is stationary latch releases trunk lid from all locking positions. When moving forward at a speed less than 5km/h, must release the primary latch and may release all tatches. At speeds greater than 5km/h must release the primary latch only. S4.3(b)	۴	r	Not applicable.

Pass C Fail

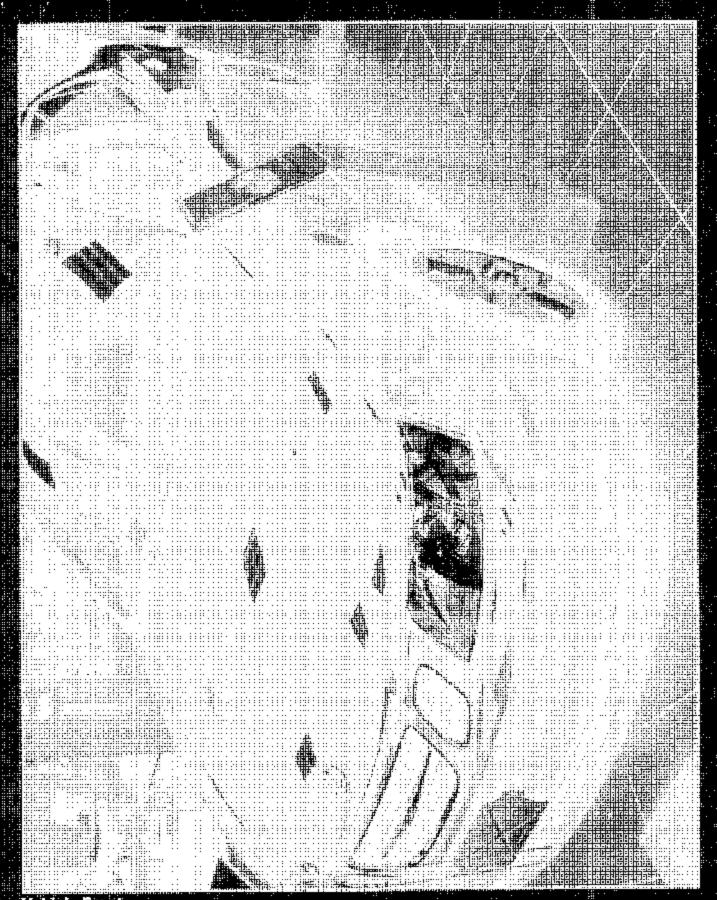
RECORDED BY: Eduardo Maximo Aviles DATE: 1/13/2005

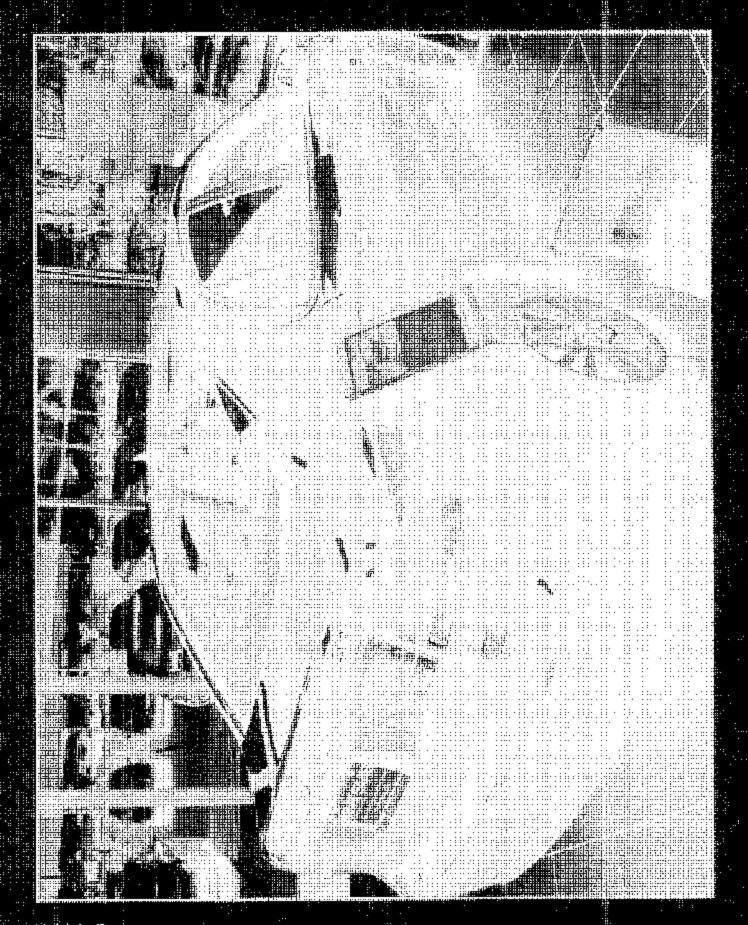
APPROVED BY: Eduardo Maximo Aviles

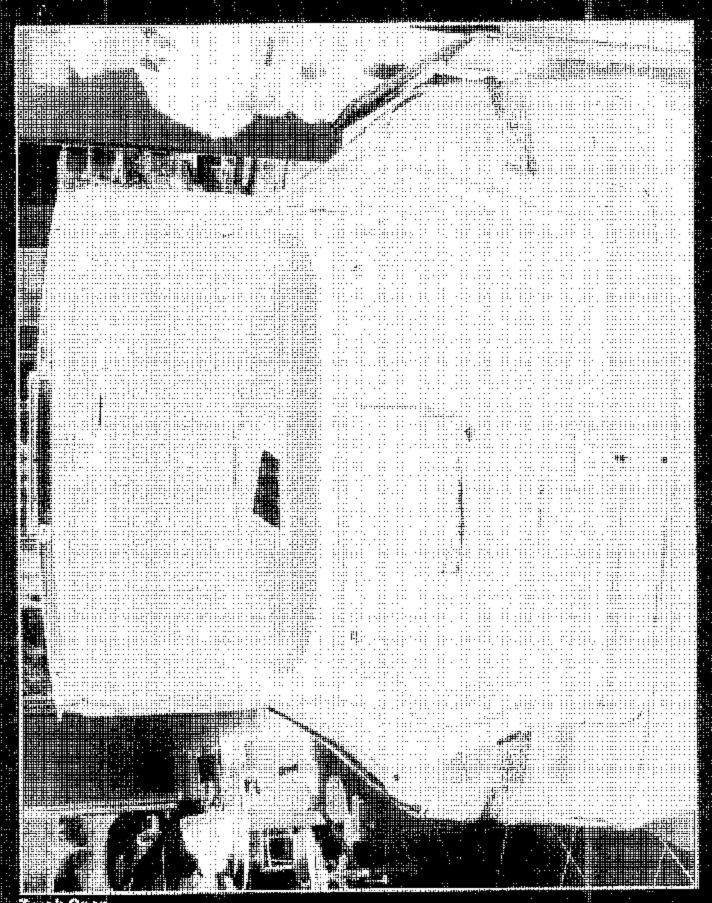
4.0 - Test Equipment List and Calibration Information

EQUIPMENT	DESCRIPTION	MODEL/SERIAL NO.	•	NEXT CAL. DATE
Force Transducer	Shimpo Force Gauge	Model MF-50 KG	12/09/03	Manufacturer

5.0 - Photographs

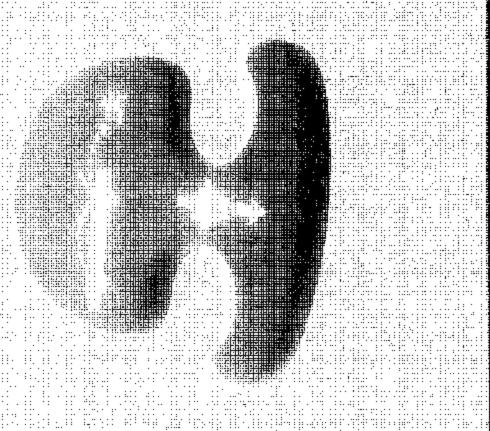


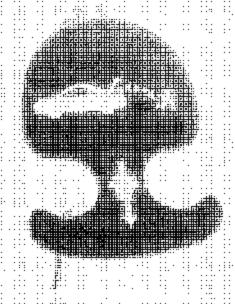




Trunk Open

		.,,	
			:: ;:: L ;: - ::::::::::::::::::::::::::::::::::
	:- 		
	: : : : : : : : : : : : : : : : : : :	Huiff Control of the	· · · · · · · · · · · · · · · · · · ·
			· · · · · · · · · · · · · · · · · · ·
	# ·· :: · · · ·	:: :::::::::::::::::::::::::::::::::::	··· : [17], ·‡ : [10] : ::::::::::::::::::::::::::::::::::
	L CHART CAREER.		
	## :: ::	<u>(23)</u>	
	i i i i i i i i i i i i i i i i i i i		· · · · · · · · · · · · · · · · · · ·
		H + + + + + + + + + + + + + + + + + + +	# . # # # # # # # # # # # # # # # # # # #
	: : : : : : : : : : : : : : : : : : :	The second secon	
	THE THE	:: har its its	5 ft
			··· ··· : # ··· · · # · · · · · · · · ·
	·		
		· · · · · · · · · · · · · · · · · · ·	
			.: : : : : : : : : : : : : : : : : : :
		· · · · · · · · · · · · · · · · · · ·	·······
		±1,	· · · · · · · · · · · · · · · · · · ·
	.: :		· · · · · · · · · · · · · · · · · · ·
:: :::::::::::::::::::::::::::::::::	: : :		· ••••••••••••••••••••••••••••••••••••
[<u> </u>		
	. 14		
	· · · · · · · · · · · · · · · ·	::::::::::::::::::::::::::::::::::::::	::.::m===::::::::::::::::::::::::::::::
	. tij, jit :. ::		::### #::"#+ to:::::i:::ii:::ii:::ii:::ii:::ii:::ii:
	:: :: :: الم <mark>لتأن</mark> :	:::	
	; 4 -	· · · · · · · · · · · · · · · · · · ·	
	ं क्षेत्र :: :: :: ::	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
			· · · · · · · · · · · · · · · · · · ·
	: ': '' ' :: :: ::	:::: 	
	: ::::::::::::::::::::::::::::::::::::		
	·		:: : : : : : : : : : : : : : : : : : :
***			: . · : · : · · · · · · · · · · · · · ·
[
			:. :: # [:0
			:. :: # [:0
			:. :: # [:0
			:. :: # [:0
			:. :: # [:0
		CCN#CPMA 10 A5.	







Force Transducer Attached to Release Handle